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Fall 2019

Green Club After School Program Curriculum

Megan Willburn

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Willburn, Megan, "Green Club After School Program Curriculum" (2019). *Honors Expanded Learning Clubs*. 36.

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NEBRASKA HONORS PROGRAM

CLC EXPANDED LEARNING OPPORTUNITY CLUBS

INFORMATION SHEET

Name of Club: Green Club

Age/Grade Level: 3rd through 5th grade

Number of Attendees: 9

Goal of the Club: (learning objectives/outcomes)

Better understand the planet on which we live, including components of the earth, issues with pollution, and ways to be good stewards of Earth.

Resources: (Information for club provided by)

Riley staff, online research

Content Areas: (check all that apply)

- ☐ Arts (Visual, Music, Theater & Performance)
- ☐ Literacy
- ☒ STEM (Science, Technology, Engineering & Math)
- ☐ Social Studies
- ☐ Wellness (Physical Education, Health, Nutrition & Character Education)

Outputs or final products: (Does the club have a final product/project to showcase to community?)

Not applicable

Introducing your Club/Activities:

Green Club is an afterschool program which encourages students to develop environmental empathy, passions for environmental sustainability, and knowledge about the workings of environmental systems.

General Directions:

The general directions for the students often include basic rules for classroom conduct, including (1) keeping our voice down, (2) listening to our classmates and teachers when they are speaking, (3) cooperating, (4) following directions, (5) and doing our best!

Tips/Tricks:

Engage the creative parts of the students brains as often as possible because this is often the best method of instilling new academic knowledge. Also, be cognizant of the effects of physical space on the attention of students. For example, give instructions in classrooms before venturing outside. Once students get outside of the school building, listening skills decrease. Lastly, avoid introducing distractions to the students for as long as possible.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name: Four Corners Game

Length of Activity: 15-20 minutes

Supplies: None

Directions:

Prior to class time, come up with a list of fifteen statements (some related to environmental science and some entirely random). Then read one statement aloud at a time and ask the students to go to one of the four corners which indicate either (1) oh yes, (2) I guess so, (3) not really, and (4) no way. After the students scatter to the corners they agree with, ask a couple students in each of the corners why they chose that corner in order to get the students talking about themselves, gaining comfort in the classroom scenario, and beginning initial conversations about the environment.

Conclusion of the activity:

The final statement was 'I am an environmentalist.' This allowed the students to brainstorm definitions and meanings for that word which they had never heard before. Help to direct and refine the definition of that word for them. Segue into a larger discussion about the club and its purpose.

Parts of activity that worked:

The kids really enjoyed being able to move around the room and discuss their own answers to their questions.

Parts of activity that did not work:

After a few of the statements, attention ran a little low. We were able to give the students opportunities to take turns reading the statements aloud to their classmates which helped encourage greater participation. Still, the activity probably went on too long.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name: Tragedy of the Commons Jolly Rancher Activity

Length of Activity: 10 – 15 minutes

Supplies: Jolly Ranchers, paper, pencils

Directions:

A pile of jolly ranchers (of an unknown number) will be placed in a central location near the students. Each student will then be asked to write how many they want. Tell the students 1. That they can have the number they write down and 2. Whoever writes the largest number will get a five jolly rancher bonus. However, no one will get any jolly ranchers if the total of the numbers written down is more than what is in the pile. Students will not be allowed to discuss their numbers with the other students. Most likely, the students will overshoot on the number available and no one will receive any jolly ranchers. Use this to explain the issue of Tragedy of the Commons in regards to the environment (including parks, international waters, Antarctica, and other examples). Then, run the activity again, but this time, allow the students to talk to each other. Most likely the students will each receive jolly ranchers this time, and that will complete the activity.

Conclusion of the activity:

In the end, the students will have learned the concept of tragedy of the commons, examples of where this applies, and be able to eat some of the jolly ranchers.

Parts of activity that worked:

After being given the example of the ocean, students were asked to think of other locations which can be considered “commons.” The students were able to identify several and the ways in which they mimic the Tragedy of the Commons activity.

Parts of activity that did not work:

Surprisingly, the students did not overshoot on the first try. In this case, I reminded them of the rules and gave them a second try to complete the activity. The second time, they overshoot. This solved the problem. If, however, students do not overshoot, ask what made them choose to write the numbers that they each did. Encourage every student to provide an explanation. Then use those explanations to segue into a discussion about what would have happened if each of the students had written larger numbers and what that means for the environment.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name:	Getting Dirty: A Study in Soil
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Length of Activity:	30 – 40 minutes
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Supplies:	Soil, magnifying glasses, water, containers
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Directions:

Students will each receive a small container of soil. First, they will be encouraged to touch it, look at it, and observe the parts of it. When initial observations have been exhausted, hand out magnifying glasses to each student. Ask students to determine the parts of the soil (i.e. organic matter, mineral particles, water, and air). Once the correct answers have been discussed, release the students into the nearby outdoor area to collect the materials to create their own soil in empty

containers. This will lead to a discussion about how varying amounts of the different apportionments of soil parts lead to different types of soil which are often created in different biomes.

Conclusion of the activity:

Students will have had the opportunity to tear apart, examine, and recreate soil, learning in the meantime about soil types and composition. If desired, do an experiment on whether the created soil or the initial soil work better to grow a plant. Have the students make a hypothesis, and run the test overtime. This exercise will require additional resources and planning.

Parts of activity that worked:

In the discussion aspects, the students were able to understand that the nutrients in plants decompose and realize the importance of organic material in soil used for farming and gardening. The students were also very resourceful, finding interesting ways to add organic materials and water to their dry soil.

Parts of activity that did not work:

The ground outside Riley Elementary is not soft, so the students often had to find sticks and scrape at the ground in order to bring up dirt. It was also very dry outside.

LESSON PLAN WORKSHEET

(copy table as needed)

**Lesson Activity
Name:**

Alien Expedition

Length of Activity:

50 minutes

Supplies:

Paper, writing utensils, clipboards, markers

Directions:

Students will pretend to be aliens coming to visit Earth. As a class, break up into two groups, and venture outside. Once outside, one group made predictions about what they expected to find in a treed area while another made predictions about what they would find in a grassy area. Then each group went to their designated area and begin searching for organisms. Use this to lead a discussion about adaptations and their purpose, which organisms live in which locations, and the concept of biodiversity.

Conclusion of the activity:

Conclude with the two groups drawing/writing out their findings and presenting them to the other group along with their initial predictions and some information about the discussions which took place during the search about adaptations and biomes.

Parts of activity that worked:

Students really enjoyed the broader context of the alien expedition. They also really enjoyed the opportunity to draw and color their findings, see how close their predictions were, and present to the other students.

Parts of activity that did not work:

The concept of the alien expedition was quickly lost in my group. If I had the opportunity to redo the activity, I would have asked students questions about how an alien would see the organism. Try to encourage the students to look from an outside perspective at a bug or plant that they make have seen many times in their lives. This might have prompted a more productive discussion.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Pollution Picture Game

Name:

Length of Activity: 25 minute activity

Supplies: Paper and Markers

Directions:

Spend the first ten minutes brainstorming ways in which everyday activities create pollution, thinking of as many as possible. If stuck, ask the students to consider each part of the day successively (e.g. breakfast, soccer practice, etc.). Next, hand out the supplies to each student and either alone or in pairs, have the students draw a “what’s wrong with this picture” pollution drawing in which students should create a scene with elements of pollution. When finished, have students exchange pictures with another individual or pair and point out all the instances of pollution. If extra time, allow students to present drawings to the class.

Conclusion of the activity:

Ask students where pollution exists in daily living that the students had not thought about before. Brainstorm ways in which to minimize some of those means of pollution. Are there alternatives?

Parts of activity that worked:

Students enjoyed drawing the pictures. The initial brainstorm offered students something on which to base their drawings.

Parts of activity that did not work:

Many students drew similar pictures since the brainstorm list was not long enough. Perhaps, come prepared with twenty or more forms of pollution in different segments of the day and assist students in noticing as many of these forms as possible. Students also often became excited about their drawings and wanted to share. For this reason, it might be helpful to allow the students to complete the activity in groups rather than spoil their drawings early.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name:	Build Your Own Planet: Food Web Practice
Length of Activity:	50 minutes
Supplies:	Poster paper, markers, and an optional visual aid in order to help explain what an example would look like (such as a PowerPoint)

Directions:

Tell the students that they are going to create their own planet, but that in order to work, it must have certain elements. First, instruct the students to draw the ground, encouraging the students to be creative (e.g. will it be rocky? mountainous? watery?), but remind them not to include animals yet. Next, discuss with the students the meaning of 'herbivore' and what a herbivore's characteristics might be (Are they fast or slow? What do their teeth look like?). Ask the students to add some to their planet. Continue this pattern with omnivores, carnivores, and detritivores. If the students struggle to come up with proper characteristics, ask them to consider examples of these organisms on Earth. What do they look like? What do they eat? Who are their predators? To finish the activity, encourage students to draw food web arrows to who eats what. This will clear up any confusion the students have about the classifications of the vocabulary words.

Conclusion of the activity:

Allow the students/groups to compare their works, explaining their thought processes (including both the creative and the academic side) in creating their planets.

Parts of activity that worked:

Students really enjoyed the opportunity to be creative and create new creatures on their own planet. By the end, each also seemed to have a good understanding of the purpose of the exercise and could explain the material back well.

Parts of activity that did not work:

Since students often did not want to quit working on one section in order to define and discuss the next section, it might be helpful to make the quitting period more fun. For example, give the students a limited amount of time, and once the time is up, tell them to drop their pens, stand up, and engage in a silly activity (e.g. act like a gorilla). Then have the students relocate to a separate part of the room to consider the next piece, separating the students from the distraction of their alien landscape.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name:	Waste Audit
Length of Activity:	50 minutes
Supplies:	Scale, plastic bags, tarps, trash, plastic gloves
Directions:	

Spend ten minutes discussing with students the importance of recycling and the detriments of waste. Then, lay out tarps on the ground, putting a plastic bag on each. Label the tarps with the different sections of waste: paper, plastic, compost, and trash. Have the students put on plastic gloves. Open up a bag of trash, preferably from the school the students attend in order to increase the effectiveness of the message. Encourage the students to sort the trash into each of the categories in which it should have originally been placed. When the students have completed the sorting, measure the weights of each of the bags with the scale and consider the results. Dispose of the waste.

Conclusion of the activity:

Discuss with the students the results of the activity. What do they mean? Of which section of waste is the school best at disposing? Which is the worst? How can the school improve? In what ways can the students improve their habits or the habits of their friends?

Parts of activity that worked:

Students were able to map the issues with waste well and were successful at analyzing the results.

Parts of activity that did not work:

The space in which we worked was small and difficult to maneuver. It also trapped the trash smell and caused several of the students to balk at participation. Ensure that the students are properly prepped to engage in this activity because it seemed to require mental stamina to see it to completion.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name:	Red-Light Green-Light 2.0
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Length of Activity:	10 minutes
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Supplies:	A space to run
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Directions:

Play three versions of red-light green-light. First, play based on the traditional rules in which students stand on one end of the space and simulate cars heeding the directions called. If green is called, the students run. If yellow is called, the students walk. If red is called, the students stop. Whichever student reached the other side of the defined space fastest, wins. Second, play with trains. Group some of the students together into a train. Tell the students that they must move together. If they separate, they automatically lose. This intentionally slows down the train. Allow some of the students to remain as cars. Play the game again; the cars should win. Now, play a third version with traffic. Traffic means that the cars must move as if their feet are tied tight together with a zip-tie, meaning that these students can only shuffle. Continue allowing some of

the students to be the train. Play again, this time the train should win since it does not have to contend with traffic.

Conclusion of the activity:

Consider the positives and negatives of cars and trains in relation to speed. Then transition into the activity Transportation Nation (below).

Parts of activity that worked:

The students were excited to run, and each enjoyed engaging in the activity.

Parts of activity that did not work:

Students, at times, grew angry that the game was not fair. Remind the students that it is a tool for learning and offer the incentive of playing one last round of the original game – without restrictions – at the end, but only if the students cooperate.

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity Name:	Transportation Nation
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Length of Activity:	40 minutes
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Supplies:	Paper and markers
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Directions:

Brainstorm types of transportation, including methods by land, air, and sea. Then brainstorm the things that make a form of transportation more and less environmentally friendly (e.g. fuel source, number of passengers). Finally, brainstorm alternative fuel sources for transportation. Write these lists in a place where each of the students can see and reference. Allow the students time to create their own, new form of transportation. Encourage them to consider over what types of mediums can it travel? How many people can it hold? What is its fuel source? How does it help the environment?

Conclusion of the activity:

Allow the students to present their drawings to the class, including their creative and academic thought processes when choosing the design, structure, and fuel source.

Parts of activity that worked:

Each student seemed to gravitate to some portion of the activity. One student really enjoyed brainstorming transportation methods while others enjoyed learning about new environmentally-friendly forms of fuel. Most of the students preferred the creative aspect the best, but overall, everyone seemed satisfied by something.

Parts of activity that did not work:

Some students finished early and wanted to work on other things. Provide students with additional pieces of paper and encourage them to consider their first drawing a proto-type. How

can it look better? How can it be more environmentally friendly? What would make people want to use it?

LESSON PLAN WORKSHEET

(copy table as needed)

Lesson Activity

Wrap Up Games

Name:**Length of Activity:**

50 minutes

Supplies:

Candy incentives, place to write and something to write with (e.g. white board and white board markers)

Directions:

Prepare as many terms as possible relating to the semester's lessons on the environment. It may be helpful to write them on slips of paper for the students to draw. Have the students choose a word. If students want to brainstorm their own words, have them check first in order to ensure that the words are environmentally-related. Then students should decide whether to draw out the word (like Pictionary) or act out the word (like charades). Have the rest of the students guess what word is being indicated. Whichever student guesses gets a point. Distribute the candy at the end based on points.

Conclusion of the activity:

Have each student say one thing they learned over the semester and one thing they love about the environment and want to keep safe.

Parts of activity that worked:

Students really enjoyed the activity, particularly when it was indicated that the words were especially hard. Many times, students asked for the "hardest word left."

Parts of activity that did not work:

Further into the activity, students were hyper-focused on the candy (since I allowed the students to take a piece of candy each time rather than give them a point). The point system would likely mitigate this effect since the incentive is slightly removed from the students. Even keeping the candy fully out of sight might be helpful.